

Using Scientific Research-Based Interventions to Improve Outcomes for All Students



*General Education Core
Curriculums and Social-
Emotional Learning*

Comprehensive Educational System: Tier 1

- Standards driven curriculums
 - Student outcomes for each grade level (PreK-8)
- Design and delivery of high-quality, research-based instruction for all students
 - Differentiation as the norm
- Culturally responsive teaching
- Comprehensive assessment plan
- Sustained, job-embedded professional development to support Tier I components

General Education Core Curriculums

- Scientific evidence confirming the effectiveness of instructional strategies is substantial for those areas central to children's school success and well-being.
 - Reading (word recognition, fluency, comprehension, vocabulary, phonemic awareness)
 - Some areas of mathematics
 - Some areas of social-emotional learning

*Using Scientific Research-Based Interventions: Improving Education for All Students
Connecticut's Framework for Response to Intervention (RTI)*

Marzano, R.J.; Pickering, D.J. and Pollock, J.E., 2001.

Tier I Instruction Overview

Focus For **ALL** students (including bilingual and English language learners, special education students)

Curriculum and Instruction Scientifically and evidence based curriculums that are culturally relevant and implemented with fidelity

Grouping Multiple grouping formats to meet student needs (whole group, flexible grouping for differentiated instruction, individualized instruction)

Tier I Instruction Cont'd

Instructional Time

Appropriate to the content area and developmental level of the student

Assessments

Universal Common Assessments, benchmark assessments, common formative assessments, summative assessments, Curriculum Based Measures

Interventionist

General education teacher with collaboration from school specialists

Setting

General education classroom

Monitoring Implementation Fidelity of Core Curriculums

Effectiveness of Core Instruction (ECI) measures the percentage of students who began the school year (Assessment 1) on grade level and remained on grade level in the assessment period being reported (middle or end of year); a method for monitoring overall expected yearly gain.

Monitoring Implementation Fidelity of Core Curriculums

ECI should *not* be used as the primary measure in evaluating schoolwide performance in core subjects. The purpose is to help provide guidance in professional development, use of resources, and district or school level planning.

The ECI in One Classroom

students at grade level

STAY

at grade level

From

Assessment 1 to Assessment 2

Assessment 1 to Assessment 3

Example 1

Screening		Outcome
1	→	1
2	→	2
3	→	3
4	→	4
5	→	5
6	→	6
7	→	7
8	→	8
9	→	9
10	→	10
11	→	11
12	→	12
13	→	13

One Academic Year

9 of 13 students
who were at grade
level continued at
grade level

$$ECI = .69$$

The ECI in One Classroom: Activity

Screening

Outcome

1	→	1
2	→	2
3	→	3
4	→	4
5	→	5
6	→	6
7	→	7
8	→	8
9	→	9
10	→	10
11	→	11
12	→	12
13	→	13
14	→	14
15	→	15
16	→	16
17	→	17

One Academic Year

14 of 17 students
who were at grade
level continued at
grade level

What is the
Effectiveness of Core
Instruction (ECI)?

$$ECI = \boxed{.82}$$

Monitoring Fidelity of Implementation: Core Curriculums

- How will this type of analysis (ECI) provide guidance in:
 - professional development planning,
 - use of resources,
 - other district or school level planning?
- Additionally, consider alterable components of instruction.

ECI - Cautions

- What should we expect?
 - With a new measure, we often don't know what to expect, or what is “good performance”

Goal for **ECI** should be 100%

ECI - Cautions

- **Population Sensitive**
 - The results are based on students that remain in the same school for each assessment
 - Small populations have volatile measures
 - A school with high mobility rate can lose many students resulting in limited comparative data
 - In the early grades, assessment 1 measures are different than assessment 3 measures
- **Data requirements**
 - must have within year, longitudinally identifiable data

Current Trends in State Data

- Regarding improvement in academic performance for *all* students groups, reading is one area of particular concern.
- Overall, CMT reading scores show a downward trend over the past couple of years.
- What do we need to know about all aspects of literacy instruction, including literacy across the content areas?

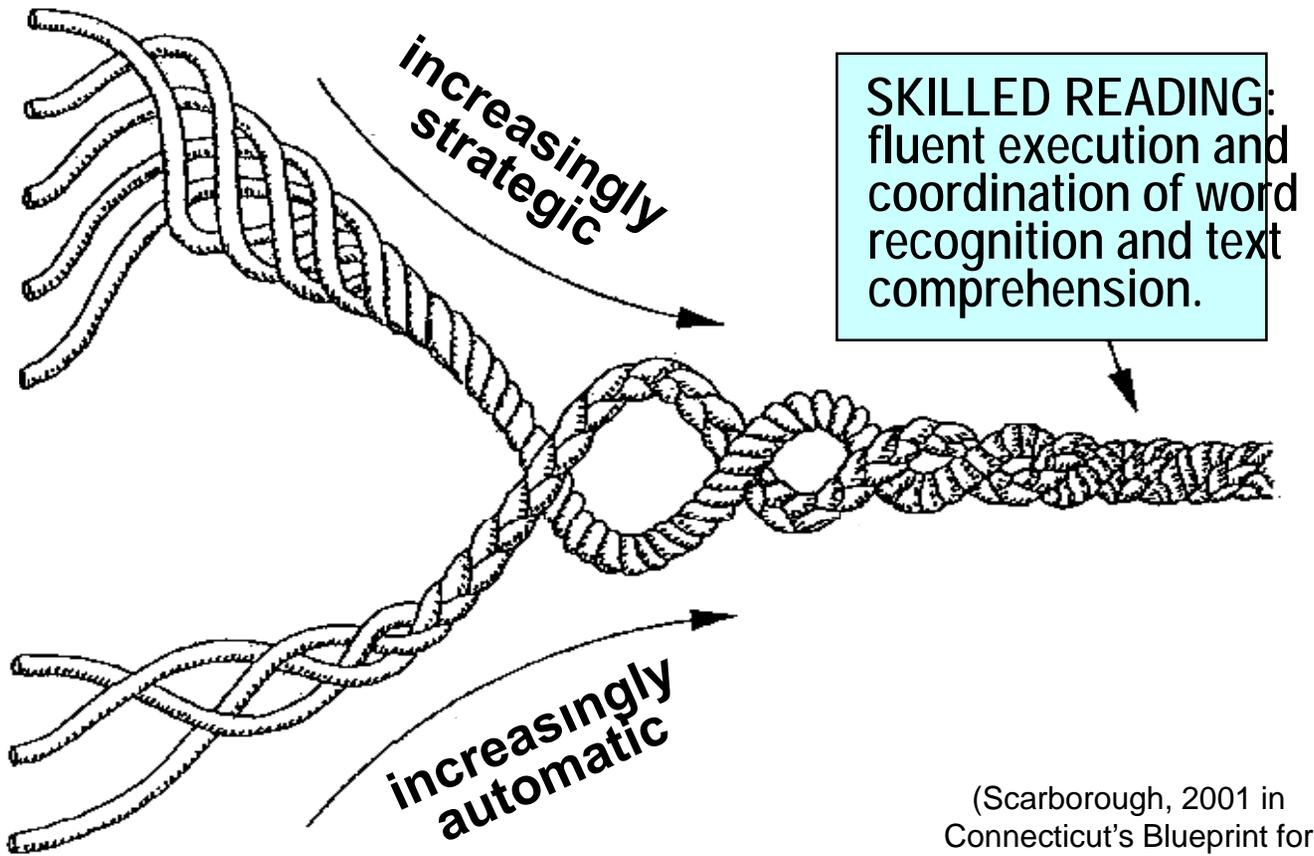
Adapted from The Many Strands that are Woven into Skilled Reading (Scarborough, 2001)

LANGUAGE COMPREHENSION

BACKGROUND KNOWLEDGE
VOCABULARY KNOWLEDGE
LANGUAGE STRUCTURES
VERBAL REASONING
LITERACY KNOWLEDGE

WORD RECOGNITION

PHON. AWARENESS
DECODING (and SPELLING)
SIGHT RECOGNITION



(Scarborough, 2001 in Connecticut's Blueprint for Reading Success)

Reading is a multifaceted skill, gradually acquired over years of instruction and practice.

The Science of Teaching Reading

- What if, in the middle grades during content area instruction, the word ***deceive*** is to be read, spelled, or understood?

To help children who may not know the word ***deceive*** or who may misread or misspell it, the teacher could draw upon what information?

The Science of Teaching Reading

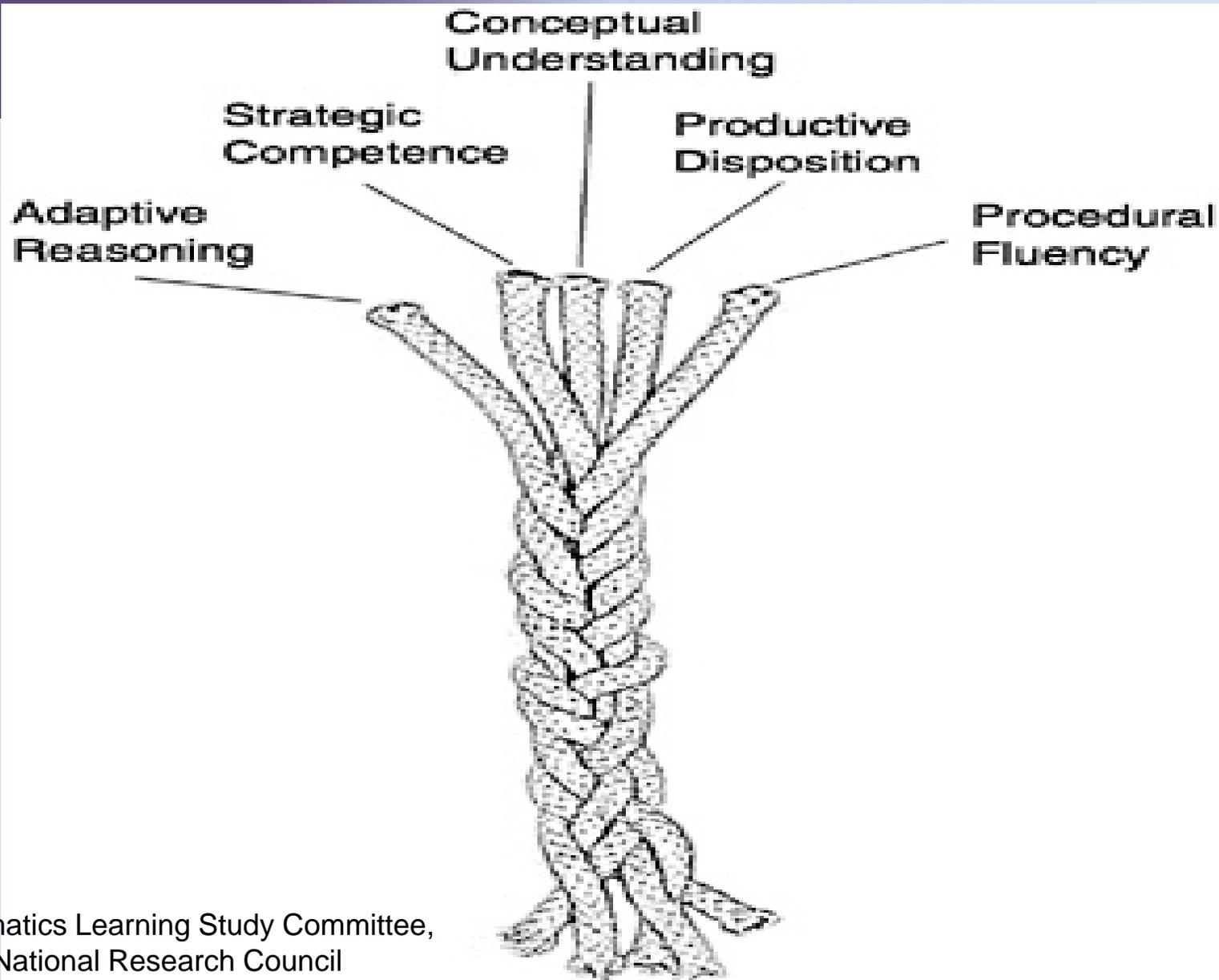
- Are *love, dove, and give* “exception” words in English?
- When are children typically expected to spell these words?
trapped, offered, plate, illustrate, preparing

What Does It Mean to Be “Proficient” in Mathematics?

- People must know basic mathematics to participate fully in society and be competent in everyday tasks.
- Mathematics has facilitated the development of science, technology, engineering, business and government.
- Given the importance of advanced math knowledge to job attainment and economic growth in the 21st century, students’ competence in this area is critical.

*Using Scientific Research-Based Interventions: Improving Education for All Students
Connecticut’s Framework for Response to Intervention (RTI)*

What Does It Mean to Be “Proficient” in Mathematics?



Mathematics Learning Study Committee,
National Research Council

Proficiency with Number Fractions

A major goal for K–8 mathematics education should be proficiency with fractions (including decimals, percent, and negative fractions), for such proficiency is foundational for algebra and, at the present time, seems to be severely underdeveloped.

The Problem

$$\frac{3}{4} \div \frac{1}{2} = ?$$

- What question is being asked?
- What responses are expected?

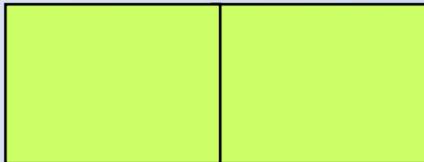
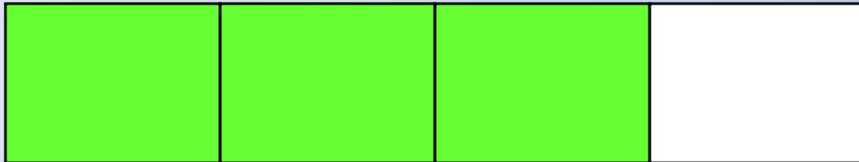
4/6 2/2 3/8 6/4

- Based on the responses, what actions should be taken?

The Answer

$$\frac{3}{4} \div \frac{1}{2} = \boxed{?}$$

Correct Answer: $\frac{6}{4}$ or $\frac{3}{2}$ or $1\frac{1}{2}$



CT Curriculum Development Guide

- The Connecticut Curriculum Development Guide is a tool, consisting of indicators for quality curriculum components.
- The purpose of the guide is to support the state's school districts in conducting an inventory of curriculum documents and to plan for curriculum development and improvement.

CT Curriculum Development Guide

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District/Program Name			
Reviewer(s)		Date Curriculum Reviewed	
Content Area		Date(s) BOE Adopted Curriculum	
Grade levels/Ages/Courses Reviewed			

I. Curriculum Development and Support

This section of the guide addresses district level planning that is essential to curriculum development. Evidence may be presented from related documents, such as a curriculum development plan or a professional development plan.

The following are important aspects of curriculum development and should be evidenced.	Yes, there is evidence.	No, there is not evidence.	Comments/ Next Steps
A. A <u>philosophy</u> and/or mission statement about the teaching and learning of all students (including special education and ELL students) across all curricula guides the curriculum development.			
B. An overall plan for curriculum development exists, involves stakeholders and indicates where each curriculum area is in the development, implementation, or evaluation cycle with timelines. Plans for data-driven evaluation of the curriculum at the district/program level and for the content areas are also included.			
C. A defined model (e.g., <u>Understanding by Design</u> , <u>Making Standards Work</u> , <u>Balanced Curriculum</u> , <u>The High/Scope Approach</u>) governs the curriculum.			
D. A system to orient teachers and administrators in the use of the curriculum includes professional development and training of new staff as needed.			
E. A list of current references/research guided the curriculum development.			
F. A plan showing alignment with a standards based report card/child profiles.			

CT Curriculum Development Guide

1. Alignment to Standards
2. Learner Expectations (GLEs)
3. Pacing
4. Embedded Literacy
5. Embedded Information and Technological Literacy
6. Teaching Strategies
7. Learning Activities
8. Assessments
9. Resources

CT Curriculum Development: Reflection Activity

- What is the purpose of curriculum?
- Why is curriculum so important for improving student learning outcomes?
- How are you currently using curriculum to make instructional decisions?
- As you look at the 9 components, think about your LA or Math curriculum and is your curriculum this comprehensive?

SRBI Planning Tool

- Working with your teammates, discuss the following questions and record your responses on the *SRBI Planning Tool* page.
- Regarding your districts general education core curriculum:
 - What is your current state?
 - What is your desired state?
 - What are your next steps?

Comprehensive Educational System: Responsive Environment

Focus	For ALL students; goal - 100% of the school community will be safe
Program	Evidence based preventative, proactive classroom management strategies
Grouping	Multiple grouping formats to meet student needs (whole school, whole class, small group, individuals, families)
Response	Appropriate to the circumstances supporting the behavior of the student(s) (pattern or an isolated occurrence), classroom climate and the developmental level of the student

Comprehensive Educational System: Responsive Environment

Assessments

Evaluation and monitoring of overall quality of the school climate (e.g., interviews, checklists, surveys, attendance data, suspension and expulsion data, data regarding trips to the nurse or guidance counselor, detention, tardiness, functional behavioral assessments, office referrals)

Interventionist

General education teacher, school administrators and other school personnel

Setting

General education classroom

School Climate

- Specifically, school climate is:
 - the nature of the interrelationships among the people in the school community physically, emotionally and intellectually;
 - how the people within the school community treat one another
 - adult to adult interactions
 - adult and student interactions
 - student to students interactions

School Climate

- School Climate is:
 - how the people within the school community treat one another through their actions
 - verbal and non-verbal exchanges
 - tone of voice
 - the use/abuse of inherent power advantages

Social-Emotional Learning (SEL)

“SEL is a process for helping children and even adults develop the fundamental skills for life effectiveness. SEL teaches the skills we all [adults and students] need to handle ourselves, our relationships, and our work, effectively and ethically.”

Social Competence

- Social competence makes for a learning environment where students are more engaged and **connected to school**, and:
 - increases achievement;
 - improves attendance rates;
 - improves classroom climate and functioning;
 - increases standardized test scores and graduation rates; and
 - decreases rates of high-risk behaviors.

School Connectedness

- Researchers have found that students respond better to efforts to improve academic performance when they feel connected to school.
- Five factors of school connectedness:
 - I feel close to people at this school.
 - I am happy to be at this school.
 - I feel like I am part of this school.
 - The teachers at this school treat students fairly.
 - I feel safe in my school.

SEL and School Connectedness

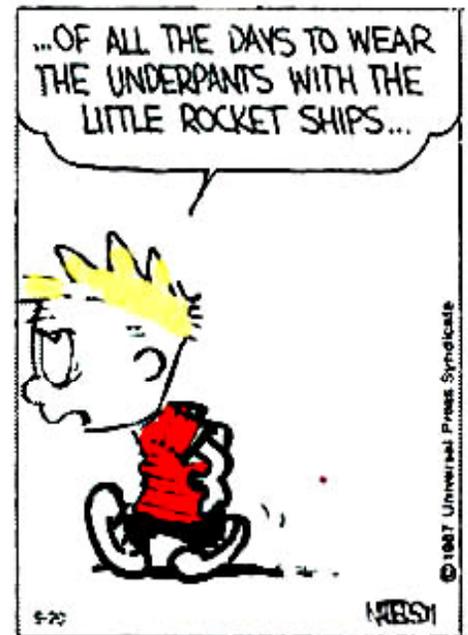
- Ensuring school connectedness requires:
 - information/data gathering;
 - data analysis;
 - goal identification;
 - an intervention plan design; and
 - implementation and monitoring.

Calvin's Dilemma

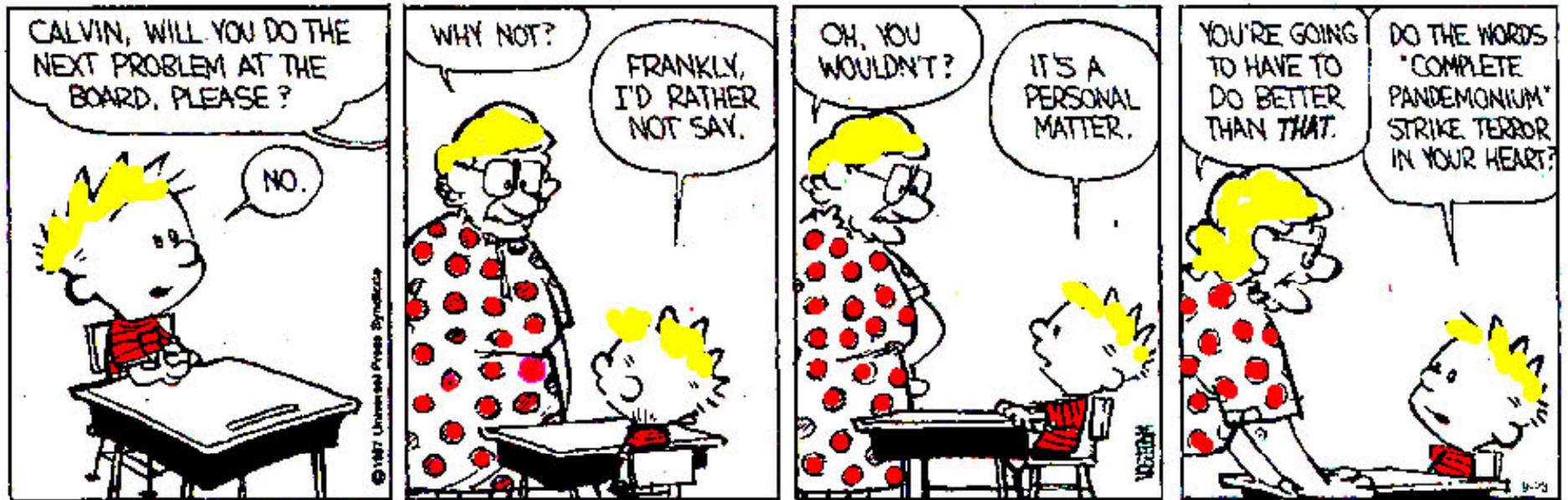
Calvin and Hobbes by Watterson



I CAN'T GO IN LIKE THIS!
WHAT AM I GOING TO DO??



Calvin and Hobbes by Watterson



Calvin and Hobbes by Watterson



Calvin's Dilemma

- Did this situation undermine Calvin's achievement? Explain.
- What made this a challenging situation
 - for Calvin?
 - for Calvin's teacher?
- How did this interaction between Calvin and his teacher change the learning environment?
- If you could share words of wisdom with Calvin's teacher, what would you say?

PBS

Ending Instructional Inequities

“In seeking to find a metaphor for the unequal contest that takes place in public school, advocates for equal education sometimes use the images of a tainted event...Unlike a tainted sports event, however, a childhood cannot be played again. We are children only once; and after those years are gone there is no second chance to make amends. In this respect , the consequences of unequal education have terrible finality. Those who are denied cannot be “made whole” by a later act of government. Those who get the unfair edge cannot be later stripped of what they’ve won... The fruits of inequality, in this respect, are self-confirming.”

Jonathan Kozol, Savage Inequalities

Reflection



1. What are your personal reactions to this quote?
2. What educational inequities currently exist in your school/district?
3. Who is being affected by the “consequences of unequal education”?
4. How will SRBI have the potential to influence change in your school/district?

Considerations for Culturally and Linguistically Diverse Learners

- The SRBI process must ensure that the intervention process is *culturally and linguistically* responsive.
- When educators understand that culture provides a context for the teaching and learning of all students:
 - they recognize that differences between home and school cultures can pose challenges for both teachers and students. (García & Guerra, 2004)

Culturally Responsive Teaching

- Culturally mediated instruction
 - incorporates and integrates diverse ways of knowing, understanding, and representing information.
- Reshaping the curriculum
 - means including issues and topics related to the students' background and culture; it should challenge the students to develop higher-order knowledge and skills.

Cultural and Linguistic Diversity: Home Connection

- Fostering positive perspectives about families entails:
 - Engaging in continuous on-going dialogue
 - Developing an understanding of families' hopes and concerns for their children
 - Keeping families informed of all services offered by the school/district
 - Developing the cross-cultural skills necessary for collaboration and exchange of information with families

Reflection Activity

- Discuss the following questions with your team members. Be prepared to share responses with the large group.
 - What can we do (administrators/teachers) to create a positive school environment for culturally and linguistically diverse students?
 - What is our collective responsibility to support culturally and linguistically diverse students and their families?
 - What can we do to enhance educators' consciousness of the needs of culturally and linguistically diverse learners?
 - What can we do to promote and support culturally responsive teaching?

SRBI Planning Tool

- Working with your teammates, discuss the following questions and record your responses at the bottom of the *SRBI Planning Tool* page.
- Regarding your school's responsive environment (i.e., school climate, social and emotional learning, behavioral supports, school connectedness, value for diversity)
 - What is your current state?
 - What is your desired state?
 - What are your next steps?